

Name _____

Date _____

Introduction to Related Rates

1. Given $y = 4x^3 - 3x^2 - 9x + 1$, find $\frac{dy}{dx}$
2. Given $y = 4w^3 - 3w^2 - 9w + 1$, find $\frac{dy}{dw}$
3. Given $v = 4m^3 - 3m^2 - 9m + 1$, find $\frac{dv}{dm}$
4. Given $y = 4x^3 - 3x^2 - 9x + 1$, find $\frac{dy}{dt}$
5. Given $p = 2L + 2W$, find $\frac{dp}{dt}$
6. Given $A = \pi r^2$, find $\frac{dA}{dt}$
7. Given $V = \frac{4}{3}\pi r^3$, find $\frac{dV}{dt}$
8. Given $V = \pi r^2 h$, find $\frac{dV}{dt}$
9. Given $V = \frac{1}{3}\pi r^2 h$, find $\frac{dV}{dt}$
10. Given $c^2 = a^2 + b^2$, find $\frac{dc}{dt}$